

ILLINOIS COMMERCE COMMISSION

DOCKET No. 22-0431

SURREBUTTAL TESTIMONY

OF

**ANDREW W. COTTRELL
APPLIED ENERGY GROUP, INC.**

Submitted On Behalf

Of

**AMEREN ILLINOIS COMPANY
d/b/a Ameren Illinois**

November 18, 2022

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9 **I. INTRODUCTION**

10 **Q. Please state your name and business address.**

11 A. My name is Andrew W. Cottrell. My business address is Applied Energy Group, Inc.
12 (AEG) 200 Monmouth Street, Suite 280, Red Bank, New Jersey, 07701.

13 **Q. Are you the same Andrew W. Cottrell who sponsored Direct Testimony and**
14 **Rebuttal Testimony in this proceeding?**

15 A. Yes.

16 **II. PURPOSE AND SCOPE**

17 **Q. What is the purpose of your surrebuttal testimony?**

18 A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimony filed
19 by witnesses Scott Struck, Ben King, and Curtis Sanders on behalf of the Staff of the Illinois
20 Commerce Commission (Staff) as well as Attorney General (AG) witnesses Eric Borden and
21 Courtney Lane. The fact that an issue raised in rebuttal testimony filed by other parties is not
22 addressed should not be construed as an endorsement of, agreement with, or consent to any
23 such issue or position.

24 **Q. Is Ameren Illinois proposing any changes to the Company's BE Plan?**

25 A. Yes. As discussed in the Surrebuttal Testimony of Ameren Illinois (AIC) witnesses
26 Abba, Kilhoffer and Reany, Ameren is proposing changes to the BE Plan in response to the
27 rebuttal testimony from Staff and Intervenors (surrebuttal BE Plan).

28 **Q. Are you sponsoring any exhibits as part of your surrebuttal testimony?**

29 A. No. As will be discussed below, I have updated the cost-benefit analysis and the
30 Ratepayer Impact Measure (RIM) to reflect the surrebuttal BE Plan and have also run certain
31 sensitivity analyses in response to the rebuttal testimony from Staff and the Attorney General.
32 The results of the cost-benefit analysis and RIM are included in my surrebuttal workpaper.

33 **Q. Are you offering any legal opinions in your surrebuttal testimony?**

34 A. No. While I offer my understanding of certain new provisions of the Electric Vehicle
35 Act (EV Act), none of my testimony offers any legal opinions.

36 **III. COST-EFFECTIVENESS ANALYSIS METHODOLOGY**

37 **Q. Did any witnesses oppose the methodology that you proposed for measuring the**
38 **cost-effectiveness of Ameren's BE Plan?**

39 A. No. Consistent with the direct testimony filed by Staff and Intervenor witnesses, no
40 witness on rebuttal took exception with the use of the Total Resource Cost (TRC) as an
41 appropriate methodology to measure the cost-effectiveness of Ameren's BE Plan. However,
42 certain witnesses raised issues regarding specific assumptions and inputs to the cost-
43 effectiveness analysis.

44 **Q. What assumptions and inputs did certain witnesses have issues with?**

45 A. Staff and the Attorney General raised issues related to the attribution of BE Plan
46 benefits and the impact on customer rates.

47 **Q. How do you respond to the issues raised by Staff and the Attorney General?**

48 A. Generally speaking, the Ameren Surrebuttal BE Plan, as well as the initial and Rebuttal
49 BE Plan, uses appropriate assumptions and inputs, provides long-term rate relief to customers,
50 and provides benefits to all customer classes. I will respond to each specific issue raised by
51 Staff and the Attorney General in subsequent sections of my surrebuttal testimony.

52 **IV. ANALYSIS OF COST-EFFECTIVENESS**

53 Response to Staff witness Benjamin King and AG witnesses Eric Borden and Courtney
54 Lane

55 **Q. Have any witnesses criticized the net-to-gross ratio used in the BE Plan?**

56 A. Yes, Staff witness King and AG witnesses Borden and Lane criticize the net-to-gross
57 (NTG) ratio used in the BE Plan.

58 **Q. What are the criticisms of Staff witness King and AG witnesses Borden and Lane**
59 **related to the net-to-gross ratio used in the BE Plan?**

A. Staff witness King agrees with the direct testimony of AG witnesses Borden and Lane that a lower NTG is appropriate for the cost-effectiveness analysis to reflect reasonable assumptions for calculations of net impacts and to make sure the BE Plan is cost-beneficial. Staff witness King also agrees with AG witnesses Borden and Lane that the assumption that 100 percent of program EV adoption be attributed to the incentive programs under Ameren's BE Plan is not appropriate. Witness King also asserts more than half of owners of EVs would have purchased EVs even without the rebates and that 70% of recipients would have purchased EVs even without the Federal tax credit.

Q. How do you respond to these assertions by Staff witness King?

A. As stated in rebuttal testimony, given current information and availability of Ameren-specific studies, the use of a 100% net-to-gross ratio in the BE Plan is reasonable. Reliance on studies from outside the Ameren service territory, and outside of Illinois, can help inform a NTG used for Ameren, but should not be the definitive value used. In order to determine an Ameren-specific value an evaluation would need to be performed to estimate Ameren's influence in their decision to participate in the Ameren BE programs.

Q. AG witnesses Borden and Lane assert that the Company's analysis of the issue of free ridership in its Rebuttal BE testimony does not alleviate their concerns and that they are unable to compare the 80% NTG factor used by the Company as it relates to the studies cited in their direct testimony. How do you respond?

A. My rebuttal testimony stated that " If the rebuttal BE Plan used a net-to-gross ratio of 80%, which is a conservatively low value based on evaluations performed in energy efficiency...". Ameren Ex. 8.0 at 4:86-87. This statement is accurate based on verified

independent evaluation results of the AIC's most recently completed DSM portfolio cycle from 2018-2021. Based on these results, portfolio-level energy efficiency NTG ranged from a low of 80% in 2018 to a high of 89% in 2021.¹ These evaluation results fully support that the 80% NTG used for sensitivity analysis is conservatively low based on recent AIC energy efficiency evaluation results and the trend of increasing NTG ratios in recent years.

Q. AG witnesses also state that they are unable to determine if higher free ridership levels will lower the TRC below 1.0, but it is likely that the RIM results would no longer be cost-effective. Do you agree?

A. No. I agree that, in a vacuum, lowering the NTG would likely lower the RIM results, but they would not necessarily cause the results to fall below 1.0. The decrease in RIM would be wholly dependent on how much the NTG was decreased. Also, portfolio changes such as a NTG adjustment would likely not be made in a vacuum. If the NTG was reduced significantly, there would also likely be program and portfolio modifications that could impact the RIM positively. Given all of this information, stating that higher free ridership would result in RIM results that are no longer cost-effective would be an over-simplification.

Q. Do you agree with the criticisms levied by Staff witness King and AG witnesses Borden and Lane related to the net-to-gross ratio used in the BE Plan?

A. No. I agree that the BE Plan should be cost-beneficial based on an analysis of net impacts. However, I continue to disagree that the BE Plan needs to be modified to reflect any adjustments to net impacts. Given current information and availability of Ameren-specific

¹ Please see the 'Ameren Illinois Company 2018-2021 Summary Impact Evaluation Report', Table 6, pg. 5. Full report can be found at: <https://www.ilsag.info/wp-content/uploads/2018-2021-AIC-Summary-Impact-Evaluation-Report-REVISED-FINAL-2022-11-10.pdf>

studies, the use of a 100% net-to-gross ratio in the BE Plan is reasonable. Also, both Staff witness King and AG witnesses Borden and Lane suggest that lowering the net-to-gross ratio would significantly reduce TRC and RIM results because of the reduction in benefits. As stated in my rebuttal testimony, it is important to note that the net-to-gross ratio is also applied to measure incremental costs, which would cause a decrease in costs.

Q. Why is the use of a 100% net-to-gross ratio in the BE Plan reasonable?

A. Given the relatively slow adoption of electric vehicles in the Ameren Illinois service territory, a 100% net-to-gross ratio is an appropriate value to use for modeling purposes until a more accurate value is available. Further, no witnesses have offered any directly applicable alternative analysis or study that would support the use of a different net-to-gross ratio.

Q. How would changing the net-to-gross ratio to 80% impact the cost-effectiveness analysis?

A. While AIC does not believe that lowering the NTG to 80% is appropriate or well-supported, lowering the net-to-gross ratio would decrease both the TRC and RIM. AIC ran an updated sensitivity analysis to determine the impacts of the net-to-gross ratio on the results of TRC and RIM. Using Staff's proposed 80% NTG ratio, the three-year portfolio TRC would be 1.16 and the three-year portfolio RIM would be 1.06. As Staff witness King appropriately recognizes, the TRC and RIM results using an 80% net-to-gross ratio demonstrates that even if a much lower net-to-gross ratio is used, the surrebuttal BE Plan would still be cost-beneficial from both a societal and ratepayer perspective.

122 **Q. Staff witness King cites the Commission's use of an 80% NTG for use in**
123 **calculating the cost benefit of energy efficiency program in Illinois. Do you believe this**
124 **is an appropriate justification for use in the proceeding?**

125 A. No. For multiple reasons using at 80% NTG based on energy efficiency in Illinois is
126 too low. First, the most recent evaluation of AIC's energy efficiency portfolio from 2021
127 found the total portfolio to have an NTG of 89%, which is significantly more than the 80%
128 Staff witness King suggests. Second, energy efficiency program in Illinois have been run for
129 approximately 15 years, which suggests their NTG would be lower due to a much more
130 mature market for energy efficiency. Lastly, the energy efficiency market in Illinois is
131 significantly more mature than the electric vehicle market, which suggests that the NTG for
132 the BE Plan should be higher due to it's relative infancy compared to the energy efficiency
133 market.

134 **V. ANALYSIS OF IMPACT ON CUSTOMER RATES**

135 Response to Staff witness Scott Struck and Staff witness Curtis Sanders

136 **Q. Have any witnesses criticized the short-term impact of rates in the BE Plan?**

137 A. Yes, Staff witnesses Struck and Sanders criticize the short-term impact of the BE Plan
138 on customer rates. AG witnesses Borden and Lane also criticize the short-term impact of rates
139 in the BE Plan.

140 **Q. What criticisms do Staff witnesses Struck and Sanders have about the short-term**
141 **impact of the BE Plan on customer rates?**

142 A. Staff witness Struck recommends reducing the scope and budget of programs that do not
143 individually put downward pressure on rates. Staff witness Sanders expresses concern about

which programs contribute to downward pressure on rates, the timing of when a downward pressure on rates occurs, and the short-term upward pressure on rates. Despite levelling these concerns, the witnesses provide no detailed analyses or studies that support any specific changes to the programs contained in the BE Plan.

Q. Do you agree with the criticism levied by Staff witnesses Struck and Sanders about the short term-impact of the BE Plan on customer rates?

A. No. It is natural and a normal occurrence where a significant investment is needed that costs will outweigh benefits in the short-term. As described in my direct and rebuttal testimony and my updated analysis in surrebuttal testimony, the portfolio will put downward pressure on rates in the long term, which is demonstrated by the portfolio having a RIM ratio above 1.0.

Q. What criticisms do AG witnesses Borden and Lane have about the short-term impact of the BE Plan on customer rates?

A. AG witnesses Borden and Lane claim that customers will experience an increase in rates from 2023-2028 under the Rebuttal BE Plan even accounting for increased load.

Q. Do you agree with this criticism?

A. While customers will likely see an increase in rates in the early years of the BE Plan according to the results of the RIM test, customers should also see a decrease in overall energy expenses due to the avoidance of purchasing motor gasoline. So I agree that customers are likely to see an increase in rates, but are also likely to see a decrease in overall energy bills.

**VI. SURREBUTTAL BE PLAN ANALYSIS OF COST-EFFECTIVENESS AND
ANALYSIS OF IMPACT ON CUSTOMER RATES**

Q. You mentioned earlier that Ameren updated the BE Plan based on the rebuttal testimony filed by Staff and Intervenors. Have you determined whether the programs and the portfolio under the surrebuttal BE Plan were cost effective?

A. Yes.

Q. How did you determine whether the programs and the portfolio under the surrebuttal BE Plan were cost-effective?

A. Consistent with the BE Plan filed on June 30, 2022, Ameren Illinois performed the TRC tests on the program and at the portfolio level to determine their overall cost-effectiveness. The programs and the portfolio are determined to be cost-effective if the calculated TRC ratio is greater than or equal to 1.0.

Q. Please summarize the findings of the cost-effectiveness analysis of the surrebuttal BE Plan.

A. Based on the results of the TRC calculations included in the analysis, the total portfolio is cost-beneficial for the three year total period with a three year total portfolio TRC of 1.17. The majority of proposed programs in the surrebuttal BE Plan are cost-effective on an individual basis, although some individual programs in the surrebuttal BE Plan are not. The lower TRCs for some of these programs are generally driven by high incremental costs of the equipment in the program, such as the cost of the chargers and vehicles, where no external funding sources are available, as well as the supply and generation costs associated with the increased electric load from these programs.

185 **Q. How did you determine the impact on customer rates under the surrebuttal BE**
186 **Plan?**

187 A. Consistent with the BE Plan filed on June 30, 2022, the impact of the proposed BE Plan
188 on customer rates was determined through the results of the RIM. A RIM result of 1.0 or greater
189 indicates downward pressure on customer rates, whereas a RIM below 1.0 indicated upward
190 pressure on customer rates.

191 **Q. Please summarize the findings of the customer rate impact analysis under the**
192 **surrebuttal BE Plan.**

193 A. Based on the results of the RIM calculations included in the analysis, the total portfolio
194 of electrification offerings was determined to be cost-effective for the lifetime of the
195 surrebuttal BE Plan with a three year total portfolio RIM of 1.09. The 1.09 portfolio RIM
196 calculates the RIM benefits and costs over the lifetime of the measures included in the
197 portfolio, which indicates long-term downward pressure on customer rates. However, when
198 calculating the RIM with only first year impacts, the total portfolio RIM is 0.31. The first year
199 0.31 RIM ratio suggests that there will be upward pressure on customer rates in the short term.
200 Overall, the results of these two RIM calculations demonstrates upward pressure on customer
201 rates in the short term due to high initial costs of establishing programs, but in the long term
202 there is expected to be downward pressure on customer rates as programs benefits from later
203 years are accrued.

204 **Q. Considering these updated analyses, have any of your recommendations been**
205 **changed?**

206 A. No. Based on my updated analysis, Ameren's surrebuttal BE Plan continues to satisfy
207 the requirements of Section 45 subsection (d) of the EV Act.

208 **VII. CONCLUSION**

209 **Q. Please summarize the conclusions of your surrebuttal testimony.**

210 A. For the reasons set forth above, and in my direct and rebuttal testimony, I have come to
211 the following conclusions. First, based on a robust analysis, the Ameren Illinois surrebuttal
212 BE Plan is designed to deliver cost-beneficial beneficial electrification programs to Ameren
213 Illinois customers. Second, while the surrebuttal BE Plan is expected to apply upward
214 pressure in the short term, over the long term, the surrebuttal BE Plan will provide downward
215 pressure on all customer rates. These two conclusions are extremely important considerations
216 that support Commission adoption of Ameren Illinois' BE Plan.

217 **Q. Does this conclude your surrebuttal testimony?**

218 A. Yes, it does.